

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A specimen holder configured for holding a water-containing biological specimen during high-pressure freezing of the specimen, the specimen holder comprising:

at least two shaped parts detachably joinable to one another, wherein the joined shaped parts form a receptacle for holding the biological specimen, wherein at least one of the shaped parts comprises a diamond material, and wherein the diamond material forms at least part of a first inner surface of the receptacle,

wherein the receptacle is configured to be able to contain an overpressure of at least 2000 bar.

2. (Previously Presented) The specimen holder as defined in Claim 1, wherein at least one of the shaped parts is disk-shaped.

3. (Previously Presented) The specimen holder as defined in Claim 1, wherein a spacer ring fabricated from metal is provided between the shaped parts.

4. (Previously Presented) The specimen holder as defined in Claim 3, wherein both shaped parts are disk-shaped diamond material.

5. (Previously Presented) The specimen holder as defined in Claim 1, wherein one of the shaped parts is fabricated from metal, is disk-shaped, and comprises a shaped-on bead running around a rim of the disk.

6. (Previously Presented) The specimen holder as defined in Claim 1, wherein the diamond material comprises an orifice for the delivery of high pressure.

7. (Previously Presented) The specimen holder as defined in Claim 3, wherein the metal comprises one of gold, aluminum, and copper.
8. (Previously Presented) The specimen holder as defined in Claim 3, wherein each shaped part has a planar surface on a surface facing the receptacle, wherein the diamond material forms at least one of the planar surfaces, and the spacer ring is configured to serve as a seal between said planar surfaces and to define the specimen receptacle.
9. (Previously Presented) The specimen holder as defined in Claim 1, wherein the diamond material is a synthetic polycrystalline chemical vapor deposition diamond material.
10. (Previously Presented) The specimen holder as defined in Claim 1, wherein at least one of the shaped parts has an irregularly shaped external surface.
11. (Previously Presented) The specimen holder as defined in Claim 1, wherein said at least one of the shaped parts consists of a diamond material forming an inner surface of the receptacle.
12. (Previously Presented) The specimen holder as defined in Claim 2, wherein a spacer ring fabricated from metal is provided between the shaped parts.
13. (Previously Presented) The specimen holder as defined in Claim 5, wherein the metal comprises one of gold, aluminum, and copper.
14. (Previously Presented) The specimen holder as defined in Claim 4, wherein one of the parts comprises an orifice for the delivery of high pressure.
15. (Previously Presented) The specimen holder as defined in Claim 3, wherein one of the shaped parts comprises a high-pressure conduit and the other of the shaped parts comprises a disk-shaped diamond material forming the first inner surface of the receptacle.
16. (Previously Presented) The specimen holder as defined in Claim 1, wherein one of the shaped parts comprises a high-pressure conduit and the other of the shaped parts comprises:

a disk-shaped diamond material forming the first inner surface of the receptacle; and
a disk-shaped metal piece having a shaped-on bead running around a rim of the disk
and having a bottom,
wherein the bead is configured to define the receptacle.

17. (Previously Presented) The specimen holder as defined in Claim 16, wherein the metal piece is located between the diamond material and said one of the shaped parts, and wherein said bottom is in contact with the diamond material.

18. (Canceled)

19. (Previously Presented) The specimen holder as defined in Claim 1, further comprising a cryogen source configured to provide cryogenic cooling to said at least one of the shaped parts.

20. (New) The specimen holder as defined in Claim 1, wherein at least one of the shaped parts has a circular cross section.

21. (New) A high pressure freezing device for high-pressure freezing of a water-containing biological specimen, comprising:

a specimen holder configured for holding the biological specimen during high-pressure freezing of the biological specimen, the specimen holder comprising at least two shaped parts detachably joinable to one another, wherein the joined shaped parts form a receptacle for holding the biological specimen, wherein at least one of the shaped parts comprises a diamond material, and wherein the diamond material forms at least part of a first inner surface of the receptacle; and

a source of cryogen connected to the specimen holder and configured to provide the cryogen to the specimen holder.

22. (New) The high pressure freezing device as defined in Claim 21, wherein said cryogen comprises liquid nitrogen.